Please replace the claims with the following claim set:

1. (Original) A method of more accurately determining the room temperature of air in an automobile cabin by a temperature sensor, comprising:

automatically determining the room temperature of air in an automobile based on an air temperature value for air measured by the air temperature sensor which has been adjusted based upon at least one of the following factors:

a) a temperature value for solid mass surrounding the temperature sensor; and

b) an outlet temperature value for outlet air leaving a conditioned air outlet vent and a blending factor value based on estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor.

2. (Original) The method of claim 1, wherein the outlet temperature value for outlet air leaving a conditioned air outlet vent is the outlet temperature value for outlet air leaving a conditioned air outlet vent that most influences the air temperature value measured by the temperature sensor.

3. (Original) The method of claim 1, wherein adjustment is based on both factors and further comprising:

automatically obtaining the temperature value for the solid mass surrounding the temperature sensor;

automatically obtaining the outlet temperature value for outlet air leaving the conditioned air outlet vent;

automatically obtaining the air temperature value for air measured by the air temperature sensor; and

automatically obtaining the blending factor value based on the estimated percentages of room temperature air and outlet air present in the air sampled by the air temperature sensor.

4. (Original) The method of claim 1, wherein automatically determining the room temperature of air in an automobile is further based on a local heat transfer convection coefficient of the solid mass surrounding the temperature sensor.

5. (Original) The method of claim 1, wherein automatically determining the room temperature of air in an automobile is further based on an area of the solid mass surrounding the temperature sensor that influence the air temperature value for air measured by the air temperature sensor.

6. (Original) The method of claim 1, wherein automatically determining the room temperature of air in an automobile is further based on a local heat transfer convection coefficient and an area product of solid mass surrounding the temperature sensor.

7. (Original) The method of claim 1, wherein automatically determining the room temperature of air in an automobile is further based on a product of the mass flow rate and the enthalpy of air sampled by the temperature sensor.

8. (Original) The method of claim 7, wherein the mass flow rate of the air sampled by the temperature sensor is substantially constant when the mass flow rate of the outlet air leaving the conditioned air outlet varies.

9. (Original) The method of claim 7, wherein the mass flow rate of the air sampled by the temperature sensor varies in relation to the mass flow rate of the outlet air leaving a conditioned air outlet, and wherein the variation in mass flow rate of the air sampled by the temperature sensor is taken into account when automatically determining the room temperature of air in the automobile.

10. (Original) The method of claim 7, wherein the product of the mass flow rate and the enthalpy of air sampled by the temperature sensor is substantially independent of a variation in the mass flow rate of the outlet air leaving the conditioned air outlet.

11. (Original) The method of claim 1, further comprising automatically determining the temperature value for solid mass surrounding the temperature sensor based on heat generated by heat-generating components onboard the automobile that effectively influence the temperature of solid mass surrounding the temperature sensor.

12. (Original) The method of claim 1, further comprising automatically determining the temperature value for solid mass surrounding the temperature sensor based on a thermal time constant of solid mass surrounding the temperature sensor.

13. (Original) The method of claim 1, further comprising automatically determining the temperature value for solid mass surrounding the temperature sensor based on heat generated by heat-generating components on the automobile that effectively influence the temperature of solid mass surrounding the temperature sensor and a thermal time constant of the solid mass surrounding the temperature sensor.

14. (Original) The method of claim 1, further comprising automatically determining the temperature value for solid mass surrounding the temperature sensor based on a product of the mass flow rate and the enthalpy of air sampled by the temperature sensor.

15. (Original) The method of claim 1, further comprising automatically determining the temperature value for solid mass surrounding the temperature sensor based on a blending factor value, the blending factor value being based on the estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor.

16. (Original) The method of claim 1, further comprising automatically determining the temperature value for solid mass surrounding the temperature sensor based on the air temperature value for air measured by the air temperature sensor.

17. (Original) The method of claim 1, further comprising automatically determining the temperature value for solid mass surrounding the temperature sensor utilizing an iterative routine, the iterative routine including the following actions:

(a) obtaining a start temperature value for solid mass surrounding the temperature sensor, the start temperature value for solid mass surrounding the temperature sensor being the air temperature value for air measured by the air temperature sensor;

(b) after a predetermined period of time after obtaining the start temperature value, determining an increase or decrease in the temperature value for solid mass surrounding the temperature sensor based on the air temperature value for air measured by

the air temperature sensor and the outlet temperature value for outlet air leaving the conditioned air outlet vent;

(c) adding or subtracting the increase or decrease in the temperature value for solid mass surrounding the temperature sensor to the start temperature value to obtain a new temperature value for solid mass surrounding the temperature sensor;

(d) after a predetermined period of time after obtaining the new temperature value for solid mass surrounding the temperature sensor, determining an increase or decrease in the temperature value for the solid mass surrounding the temperature sensor based on the air temperature value for air measured by the air temperature sensor and the outlet temperature value for outlet air leaving the conditioned air outlet vent;

(e) adding or subtracting the increase or decrease in the temperature value for the solid mass surrounding the temperature sensor to the new temperature value to obtain an updated new temperature value for solid mass surrounding the temperature sensor;

(f) repeating actions (d) and (e), where the updated new temperature value for the solid mass surrounding the temperature sensor obtained in action (e) is used as the new temperature value for solid mass surrounding the temperature sensor in action (d).

18. (Original) The method of claim 1, wherein automatically determining the room temperature of air in an automobile is further based on the effects of sun load heat flux.

19. (Original) A method for automatically controlling the climate in a cabin of an automobile, comprising:

automatically determining the room temperature of air in the automobile according to claim 1; and

providing conditioned air to the cabin from the conditioned air outlet vent at an outlet temperature and mass flow rate determined at least based on the automatically determined room temperature of air in the automobile.

20. (Original) A method for automatically controlling the climate in a cabin of an automobile, comprising:

automatically determining the room temperature of air in the automobile according to claim 1;

automatically determining an outlet temperature and a mass flow rate of conditioned air to be provided to the cabin based on at least the automatically determined room temperature of the air in the automobile; and

providing conditioned air to the cabin from the conditioned air outlet vent at the automatically determined outlet temperature and mass flow rate.

21. (Original) A method of more accurately determining the room temperature of air in an automobile cabin, the method comprising:

utilizing an algorithm relating to at least the equation:

$$Troom = (1/X) \cdot [TICS - (HA/mCp) \cdot Tsurr] / (1 - HA/mCp) - (1 - X) \cdot Tout / X$$

where:

Troom = the room temperature of air in an automobile,

TICS = an air temperature value for air measured by an air temperature sensor,

Tsurr = a temperature value for solid mass surrounding a temperature sensor,

Tout = an outlet temperature value for outlet air leaving a conditioned air outlet vent,

X = a blending factor value based on estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor,

HA = a local heat transfer convection coefficient and an area product of the solid mass surrounding the temperature sensor, and

mCp = a product of the mass flow rate and the enthalpy of air sampled by the temperature sensor; and

automatically determining Troom by solving the above equation.

22. (Original) The method of claim 21, wherein Tsurr is determined utilizing an algorithm relating to at least the equation:

$$Tsurr = Tsurr(previously\ obtained) + \Delta Tsurr$$

where,

Tsurr(previously obtained) = a value of Tsurr previously obtained, and

$\Delta Tsurr = [q/MC - mCp/MC \cdot (TICS - Tair)] \cdot \Delta t$

where,

q = a heat generation term based on heat-generating components onboard the automobile that effectively influence the

temperature of solid mass surrounding the temperature sensor,

MC = a thermal time constant of solid mass surrounding the temperature sensor,

$Tair = X \cdot Troom + (1 - X) \cdot Tout$, and

Δt = a time interval between previously determining Tsurr and currently determining Tsurr.

23. (Original) The method of claim 22, wherein q is a variable value based on whether at least one heat-generating component onboard the automobile that effectively influences the temperature of solid mass surrounding the temperature sensor is on or off.

24. (Original) The method of claim 22, wherein Tair is determined utilizing a previously determined value of Troom.

25. (Original) The method of claim 22, wherein the equation for Troom is determined through iteration of the values for Troom in the equations for Troom and the equation for Tair.

26. (Original) The method of claim 22, wherein Δt is a time period from between 0.1 seconds and 10 seconds.

27. (Original) The method of claim 26, wherein Δt is a time period from between 0.1 seconds and 5 seconds.

28. (Original) A method for more accurately determining the room temperature of air in an automobile cabin, comprising:

automatically determining the room temperature of air in an automobile cabin by adding or subtracting an error value to/from a temperature value of air measured by an air temperature sensor, the error value being based on a temperature value for solid mass surrounding a temperature sensor.

29. (Original) A method for more accurately determining the room temperature of air in an automobile cabin, comprising:

automatically determining the room temperature of air in an automobile cabin by adding or subtracting an error value to/from a temperature value of air measured by an air temperature sensor, the error value being based on an outlet temperature value for outlet air leaving a conditioned air outlet vent and a blending factor value based on estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor.

30. (Original) A room temperature sensor assembly for more accurately determining the room temperature of air in an automobile cabin, comprising:

an electronic processor, wherein the processor is adapted to automatically determine the room temperature of air in an automobile based on an air temperature value for air measured by an air temperature sensor which has been adjusted based upon at least one of the following factors:

a) a temperature value for solid mass surrounding the temperature sensor; and

b) an outlet temperature value for outlet air leaving a conditioned air outlet vent and a blending factor value based on estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor.

31. (Original) The assembly of claim 30, further comprising a memory in which is stored:

at least one of a look-up table and an algorithm to determine the outlet temperature value for outlet air leaving the conditioned air outlet vent based on an intended average outlet temperature; and

at least one of a look-up table and an algorithm to determine the blending factor value based on the estimated percentages of room temperature air and outlet air present in the air sampled by the air temperature sensor.

32. (Original) The assembly of claim 30, wherein the processor is further adapted to automatically determine the room temperature of air in an automobile based on a local heat transfer convection coefficient and area product of solid mass surrounding the temperature sensor.

33. (Original) The assembly of claim 30, wherein the processor is further adapted to automatically determine the room temperature of air in an automobile based on a product of the mass flow rate and the enthalpy of air sampled by the temperature sensor.

34. (Original) The assembly of claim 30, wherein the processor is further adapted to automatically determine the temperature value for solid mass surrounding the temperature sensor based on heat generated by heat-generating components onboard the automobile that effectively influence the temperature of the solid mass surrounding the temperature sensor.

35. (Original) The assembly of claim 30, wherein the processor is further adapted to automatically determine the temperature value for the solid mass surrounding the temperature sensor based on a thermal time constant of the solid mass surrounding the temperature sensor.

36. (Original) The assembly of claim 30, wherein the processor is further adapted to automatically determine the temperature value for solid mass based on heat generated by heat-generating components on the automobile that effectively influence the temperature of the solid mass surrounding the temperature sensor and a thermal time constant of solid mass surrounding the temperature sensor.

37. (Original) The assembly of claim 30, wherein the processor is further adapted to automatically determine the temperature value for the solid mass surrounding the temperature sensor based on a blending factor value based on an estimated percentage of room temperature air and outlet air present in the air measured by the air temperature sensor.

38. (Original) The assembly of claim 30, wherein the processor is further adapted to automatically determine the temperature value for the solid mass surrounding the temperature sensor based on the air temperature value for air measured by the air temperature sensor.

39. (Original) The assembly of claim 30, wherein the processor is adapted to execute an iterative routine for automatically determining the temperature value for the solid

mass surrounding the temperature sensor, the iterative routine including the following actions:

(a) obtaining a start temperature value for solid mass surrounding the temperature sensor, the start temperature value for solid mass surrounding the temperature sensor being the air temperature value for air measured by the air temperature sensor;

(b) after a predetermined period of time after obtaining the start temperature value, determining an increase or decrease in the temperature value for solid mass surrounding the temperature sensor based on the air temperature value for air measured by the air temperature sensor and the outlet temperature value for outlet air leaving the conditioned air outlet vent;

(c) adding or subtracting the increase or decrease in the temperature value for solid mass surrounding the temperature sensor to the start temperature value to obtain a new temperature value for solid mass surrounding the temperature sensor;

(d) after a predetermined period of time after obtaining the new temperature value for solid mass surrounding the temperature sensor, determining an increase or decrease in the temperature value for solid mass surrounding the temperature sensor based on the air temperature value for air measured by the air temperature sensor and the outlet temperature value for outlet air leaving the conditioned air outlet vent;

(e) adding or subtracting the increase or decrease in the temperature value for solid mass surrounding the temperature sensor to the new temperature value to obtain an updated new temperature value for solid mass surrounding the temperature sensor;

(f) repeating actions (d) and (e), where the updated new temperature value for the solid mass surrounding the temperature sensor obtained in action (e) is used as the new temperature value for solid mass surrounding the temperature sensor in action (d).

40. (Original) The assembly of claim 30, wherein the processor is in electronic communication with the temperature sensor, and wherein the temperature sensor is adapted to control the mass flow rate of the air sampled by the temperature sensor so that the mass flow rate is substantially constant when the mass flow rate of the outlet air leaving the conditioned air outlet varies.

41. (Original) The assembly of claim 30, wherein the processor is in electronic communication with a temperature sensor, and wherein the temperature sensor is adapted to control the mass flow rate of the air use by the temperature sensor so that the product of

the mass flow rate and the enthalpy of air sampled by the temperature sensor is substantially independent of a variation in the mass flow rate of the outlet air leaving the conditioned air outlet.

42. (Original) An apparatus for automatically controlling the climate in a cabin of an automobile, comprising:

a room temperature sensor assembly according to claim 30; and

an air conditioning device adapted to provide conditioned air to the cabin from the conditioned air outlet vent at an outlet temperature and mass flow rate determined at least based on an automatically determined room temperature of air in the automobile determined by the processor.

43. (Original) An apparatus for automatically controlling the climate in a cabin of an automobile, comprising:

a room temperature sensor assembly according to claim 30; wherein

the processor is further adapted to automatically determine an outlet temperature and a mass flow rate of conditioned air to be provided to the cabin based on at least an automatically determined room temperature of the air in the automobile determined by the processor; the apparatus further comprising

an air conditioning device adapted to provide conditioned air to the cabin from the conditioned air outlet vent at the automatically determined outlet temperature and mass flow rate determined by the processor.

44. (Original) An automobile having the assembly of claim 30.

45. (Original) A room temperature sensor assembly for more accurately determining the room temperature of air in an automobile cabin, comprising:

an electronic processor and a memory, wherein the memory stores at least one algorithm based on an equation to automatically determine the room temperature of air in an automobile, the equation being based on variables including:

an air temperature value for air measured by an air temperature sensor,

a temperature value for solid mass surrounding a temperature sensor,

an outlet temperature value for outlet air leaving a conditioned air outlet vent,

a blending factor value based on estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor,

a local heat transfer convection coefficient and an area product of the solid mass surrounding the temperature sensor,

a product of the mass flow rate and the enthalpy of air sampled by the temperature sensor; wherein

the electronic processor is adapted to automatically determine the room temperature of air in an automobile utilizing the algorithm.

46. (Original) The room temperature sensor of claim 45, wherein the memory further stores a second algorithm based on an equation to automatically determine the temperature value for solid mass surrounding a temperature sensor, the equation to automatically determine the temperature value for solid mass surrounding a temperature sensor being based on variables including:

a value of the temperature for solid mass surrounding the temperature sensor previously obtained,

a heat generation term based on heat-generating components onboard the automobile that effectively influence the temperature of the solid mass surrounding the temperature sensor,

a thermal time constant of the solid mass surrounding the temperature sensor, and

a predetermined time interval; and wherein

the electronic processor is adapted to automatically determine a temperature value for solid mass surrounding a temperature sensor utilizing the second algorithm.

47. (Original) A program product for more accurately determining the room temperature of air in an automobile comprising machine-readable program code for causing, when executed, a machine to perform the following method actions:

automatically determining the room temperature of air in an automobile based on an air temperature value for air measured by an air temperature sensor which has been adjusted based upon at least one of the following factors:

a) a temperature value for solid mass surrounding a temperature sensor; and

b) an outlet temperature value for outlet air leaving a conditioned air outlet vent and a blending factor value based on estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor.

48. (Original) The program product claim 47, wherein, when executed, the machine also performs the following method actions:

automatically obtaining the temperature value for the solid mass surrounding the temperature sensor;

automatically obtaining the outlet temperature value for outlet air leaving the conditioned air outlet vent;

automatically obtaining the air temperature value for air measured by the air temperature sensor; and

automatically obtaining the blending factor value based on the estimated percentages of room temperature air and outlet air present in the air sampled by the air temperature sensor.

49. (Original) A means for more accurately determining the room temperature of air in an automobile cabin, comprising:

a means for automatically determining the room temperature of air in an automobile based on:

a temperature value for solid mass surrounding a temperature sensor;

an outlet temperature value for outlet air leaving a conditioned air outlet vent;

an air temperature value for air measured by an air temperature sensor; and

a blending factor value based on estimated percentages of room temperature air and outlet air present in the air measured by the air temperature sensor.

50. (Original) The means for more accurately determining the room temperature of air in an automobile cabin according to claim 49, further comprising:

a means for automatically obtaining the temperature value for the solid mass surrounding the temperature sensor;

a means for automatically obtaining the outlet temperature value for outlet air leaving the conditioned air outlet vent;

a means for automatically obtaining the air temperature value for air measured by the air temperature sensor; and

a means for automatically obtaining the blending factor value based on the estimated percentages of room temperature air and outlet air present in the air sampled by the air temperature sensor.

51. (New) The method of claim 28, wherein the error value is based on a local heat transfer convection coefficient of the solid mass surrounding the temperature sensor.

52. (New) The method of claim 29, wherein the error value is based on a local heat transfer convection coefficient of the solid mass surrounding the temperature sensor.

53. (New) The program product of claim 47, wherein automatically determining the room temperature of air in an automobile is further based on a local heat transfer convection coefficient of the solid mass surrounding the temperature sensor.